11.0 Hazards

11.1 Introduction

This chapter first describes the existing conditions and applicable regulations and plans for hazardous materials use and storage, emergency response and evacuation plans, and health hazards in the Delta Region. Impacts are analyzed by comparing the regulatory and planning constraints to the changes due to construction and long-term operation of the project and its alternatives. The impacts analysis includes consideration of the issues identified within the Environmental Checklist Form, contained as Appendix I in the CEQA Guidelines, which lists the following potential concerns relating to hazards: "Would the proposal involve: a) a risk of accidental explosion or release of hazardous substances (including, but not limited to: oil, pesticides, chemicals or radiation); b) possible interference with an emergency response plan or emergency evacuation plan; c) the creation of any health hazard or potential health hazard; d) exposure of people to existing sources of potential health hazards; and e) increased fire hazard in areas with flammable brush, grass, or trees?"

11.2 Environmental Setting/Affected Environment

11.2.1 Hazardous Materials

Hazardous materials include all flammable, reactive, corrosive or toxic substances which, because of these properties, pose potential harm to the public or the environment. Existing hazards in the south Delta relating to the storage and use of hazardous materials and substances are limited to several marinas which typically store petroleum products (gasoline and lubricating oils), and compressed gases (propane, oxygen and acetylene), and residences equipped with propane storage tanks. When managed and stored according to regulations, these types of hazardous materials present a minimal risk of accidental explosion or release. The San Joaquin County Public Health Services is the local agency responsible for the administration and enforcement of hazardous materials regulations in the construction areas of ISDP.

The San Joaquin County Office of Emergency Services (OES) is responsible for the development and implementation of a county hazardous materials management plan, including: 1) maintaining an inventory and information system of hazardous materials in the county; 2) requiring facilities storing hazardous materials and wastes in certain quantities to file a Hazardous Materials Management Plan; and 3) requiring all companies using hazardous materials or generating hazardous wastes to file a Business Plan, which provides a map and inventory of all hazardous materials and a contingency plan for accidents.

11.2.2 Emergency Response/Evacuation Plans

The San Joaquin County OES is responsible for planning emergency response actions to hazardous materials incidents. Area response plans incorporate hazardous materials inventory data, training for emergency responses and evacuation plans.

The San Joaquin County Sheriff's Department staffs a Boating Safety Division which provides law enforcement on 600 miles of waterways in the county, including the south Delta. By authority and responsibility, the Sheriff's office is designated as the "Scene Manager" for any disaster, from hazardous materials spills to major flood activity. Public protection plans are coordinated with other public agencies in preparation of such disasters.

In addition to the Sheriff's Department, the United States Coast Guard provides Search and Rescue and Emergency Response to those areas of the Delta not accessible by vehicle. Because of the many meandering sloughs and canals, response is typically faster by driving to the nearest boat launch. The Coast Guard Station in Rio Vista maintains a trailerable boat which can be launched at the launching facilities at Discovery Bay, although the response time is said to be virtually the same (approximately 55 minutes).

11.2.3 Health Hazards

The Delta is a source of drinking water for approximately 20,000,000 Californians, and as such, Project-induced changes in water quality may affect the quality of drinking water. Trihalomethanes (THMs) are a group of water disinfection byproducts which are potentially carcinogenic, and are regulated by the U.S. Environmental Protection Agency. Organics and bromides, derived from the Pacific Ocean and agricultural drainage, promote the formation of THM's when water is treated by chlorination prior to distribution (Amy et.al., 1990). Both the trihalomethane formation potential of exported Delta waters, and the method of disinfection determine the THM content of the drinking water. THMs are discussed in more detail in Chapter 4.0 Water Quality.

11.3 Environmental Impacts/Consequences

11.3.1 Introduction

The nature of the construction procedures, the operational characteristics of ISDP, and the setting of the area are such that the project would not significantly increase the fire hazards in the south Delta. The following discusses the potential for releases of hazardous materials, interference with emergency response plans, and exposure of people to existing sources of potential health hazards.

11.3.2 Significance Criteria

The criteria used to determine whether identified impacts are significant and adverse were developed through a review of the CEQA Guidelines and the CEQ NEPA Regulations. For the purposes of this analysis, and pursuant to Appendix G of the CEQA Guidelines, an action would have a significant effect if it would "create a potential public health hazard or involve the use, production, or disposal of materials which pose a hazard to people or animal or plant populations in the area affected" or "interfere with emergency response plans or emergency evacuation plans."

11.3.3 Hazardous Materials

The ISDP would involve the use of propane as a backup fuel for power generation at the Old River barrier near the Delta Mendota Canal and at the Grant Line Canal barrier. Long-term operation of the project would not involve the use or storage of other explosive or hazardous materials. Propane would be delivered to these locations by truck. The San Joaquin County Public Health Services and the Building Department enforce codes for the safe storage of propane. The U.S. Department of Transportation enforces codes for transport of propane. When propane is managed and maintained in accordance with these rules, there is an insignificant risk of accidental explosion or release.

Construction contractors occasionally install temporary above-ground motor fuel storage tanks on the construction site. These storage tanks are used to dispense fuel to construction equipment. The San Joaquin County Public Health Services and the Building Department enforce codes for the storage of the materials. The San Joaquin County OES will require a Hazardous Materials Business Plan, including an inventory of all hazardous materials and a contingency plan for accidents. When the short-term fuel storage for construction is managed and maintained according to these rules, there is an insignificant risk of accidental explosion or release. Therefore, significant adverse impacts related to the release of hazardous materials are not expected.

11.3.4 Emergency Response/Evacuation Plans

The San Joaquin County Sheriff's Department, Boating Safety Division, has expressed concern that the fish control structure on Old River near the San Joaquin River may impede their law enforcement and emergency response efforts. The fish control structure on Old River would include a stationary jib crane permanently mounted to the structure to transfer boats from one side to the other. When an operator is not available for the crane, the Boating Safety Division would not have a way to pass the barrier. This is a potentially significant adverse impact.

11.3.5 Health Hazards

The ISDP would have the capability to alter the trihalomethane formation potential of water exported by the SWP owing to changes in south Delta circulation patterns and in the relative contribution of San Joaquin River and Sacramento River waters. This impact is considered in Chapter 4.0 Water Quality, and is briefly summarized in the following.

Circulation changes induced by the operation of the barriers would generally cause the San Joaquin River and the Pacific Ocean to have a decreased contribution to waters exported at the Banks pumping plant. The salinity of export water shows both increases and decreases depending on the year type and month. The changes associated with the ISDP would be such that no significant long-term changes are expected to the public health hazards resulting from THMs in drinking water.

Some short-term construction-related increases in THM formation potentially could occur. THM formation potential could occur in the dredge disposal area owing to mobilization of undissolved organic matter in soils underlying and adjacent to the dewatering ponds. The degree of the increase is not known, but is not anticipated to be substantial. This is a short-term potentially significant adverse impact.

11.4 Mitigation Measures

11.4.1 Emergency Response/Evacuation Plans

When an operator is not available for the crane at the Fish Control Structure on Old River, the Boating Safety Division would not have a way to pass the barrier. Similarly, the barriers on Old River, Middle River and Grant Line Canal could impede access. This is a potentially significant adverse impact.

This impact could be mitigated by providing the San Joaquin County Sheriff's Department Boating Safety Division access to the crane controls. The Sheriff's Department personnel should also be trained in the proper use of the controls and equipment. In this way, emergency response would not be significantly impeded during times when the crane does not have an operator on duty.

11.4.2 Health Hazards

There may be short-term increases in the THM formation potential of export water owing to construction activities. This is a potentially significant adverse impact.

The extent or significance of this impact is not known at this time. The THMFP of export water should be monitored both during construction and until the levels have dropped to background levels. If high concentrations are detected, then additional water treatment would be required prior to using the water for drinking water.

11.5 Comparative Evaluation of Alternatives

11.5.1 Enlargement Of Clifton Court Forebay, Construction Of Two Intake Structures, Increased Export Capability, And Construction Of Permanent Barriers

This alternative, the original South Delta Water Management Program preferred alternative, would entail construction and operation of the barriers proposed as a part of ISDP. Accordingly, this alternative would have the same barrier-related effects on south Delta hazards, including the potential interference of the Old River fish control structure with emergency response. In addition, this alternative would substantially enlarge Clifton Court Forebay from its current size of 2,100 surface acres to more than 5,000 surface acres using the northern portion of Victoria Island and the remaining area of Clifton Court Tract. Two new northern intake structures would be built, one at the confluence of North Victoria Canal and Middle River and the second at the

confluence of North Victoria Canal and Old River. The southeast portion of Byron Tract would hydraulically connect the existing forebay to the new area, and the realignment of Highway 4 would be necessary.

The partial flooding of Victoria Island to enlarge the forebay could increase the THM formation potential of export water. Eventually, available organic matter would either dissolve in water and be removed by pumping, or be covered by a layer of silt deposited in the new forebay area. It is not known how long the forebay water would be exposed to the organic materials, or to what levels the THM formation potential would be increased. This is a potentially significant adverse impact.

11.5.2 Reduction Of CVP/SWP Exports And Management Or Reduction Of Demand For SWP Water

This alternative would incorporate reductions in the amount of water exported to SWP water users, along with implementation of measures in the service areas to either better manage the available water or to reduce the demand for water. The project facilities proposed for ISDP would not be constructed or operated. Consequently, implementation of this alternative would not result in any negative effects related to hazardous materials, emergency response plans, or health hazards.

11.5.3 Modification Of CVP/SWP Exports, Consolidation Of Agricultural Diversions, Extension Of Existing Agricultural Diversions, And Increased Pumping At Harvey O. Banks Up To 10,300 cfs

This alternative was developed with a focus upon improving environmental conditions for fish in the Delta, without necessarily meeting all of the objectives of the ISDP. It includes operational modifications to the SWP exports, physical improvements to the agricultural diversions in the vicinity of the Banks Pumping Plant, and physical, operational, or management-related improvements at Clifton Court Forebay. Impacts related to additional THMs have been addressed in Chapter 4 of this document.

11.5.4 ISDP Project With An Additional Clifton Court Forebay Intake At Italian Slough

This alternative would provide all of the proposed components of the ISDP project, plus a new intake at Italian Slough. Implementation of this alternative would result in all of the effects associated with the ISDP, including potential interference with emergency response and possible short-term increases in health hazards.

11.5.5 ISDP Without The Northern Intake, And With An Expanded Existing Intake

This alternative would implement all of the proposed components of the ISDP project, except construction of a new intake at the northeastern corner of Clifton Court Forebay. Instead, the existing Clifton Court Forebay intake and West Canal would be expanded to accommodate the additional flow. Implementation of this alternative would result in all of the effects associated with the ISDP.

11.5.6 No Action (Maintain Existing Conditions)

This alternative would involve the maintenance of environmental conditions as they presently exist in the south Delta. The ISDP would not be approved or constructed. The potential adverse hazard-related effects of the ISDP project would not occur, nor would the potential environmental benefits occur. As no additional facilities would be constructed or operated, this alternative would not cause any interference with emergency response plans in the project area.

11.5.7 No Action (Maintain Conditions As They Will Exist In The Future)

This alternative primarily involves water management procedures in the SWP service areas, such as water conservation measures in urban areas, agriculture efficient water management practices, land retirement and water transfers. Implementation of this alternative would result in the maintenance of environmental conditions as they will exist in the future, without construction or operation of ISDP. None of the proposed actions would affect hazards in the south Delta.